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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SHIFERAW, ELEN A

ART UNIT PAPER NUMBER

2136

DATE MAILED: 11/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/087,518

Applicant(s)

ZELLER ET AL.

Examiner

Eleni A. Shiferaw

Art Unit

2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/6/05, 6/8/05, 7/25/</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Final Action

1. Applicant's arguments/amendments with respect to amended claims 1 and 5, and presently pending claims 1-17, filed on August 25, 2005 have been fully considered but are moot in view of the new ground(s) of rejection.
2. Examiner accepts the amended drawings.

Specification

3. The objection for the abstract is still maintained. Please refer to MPEP 608.01(b). Applicant is reminded of the proper format for an abstract of the disclosure.

The abstract should be in *narrative form* and generally *limited to a single paragraph* on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoads (US Patent No.: 6,636,615) in view of Cass et al. (Cass, Patent Number: 5,946,414).

As per claim 1, Rhoads teaches a method of producing a background image representing data comprising the steps of:

producing a first encoding of the data into a first binary array (Fig. 1 element 10; document; and/or fig. 2B);

producing a second encoding of the data into a second binary array (Fig. 1 element 10; watermark; and/or fig. 2A);

representing the first binary array as a first set of modules of a first size *of $n \times n$ pixels* on nodes of a first lattice (Fig. 2B; size is 6 by 6);

representing the second binary array as a second set of modules of a second size, which is smaller than the first size *of $m \times m$* on nodes of a second lattice (Fig. 2A; size is 3 by 3 which is less than 6 by 6);

combining the first and second sets of modules (col. 4 lines 20-21; fig. 2A and fig. 2B watermarks are inserted/combined on the document 10); and

printing the first and second sets of modules (col. 4 lines 12-14, col. 6 lines 64-col. 7 lines 14, and fig. 5B).

Rhoads fails to explicitly disclose wherein each pixel is either white or black and every pixel in the module is identical to every other pixel in the module,

However Cass discloses wherein each pixel is either white or black and every pixel in the module is identical to every other pixel in the module (fig. 48 element 348; *block and white pixels in a module which is identical to every other pixel in the module 348*),

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the teachings of Cass within the system of Rhoads because

would have identical pixels in every other pixel of a module. One would have been motivated to incorporate Cass's teaching within the Rhoads because it is well known in the art to have $n \times n$ and/or $m \times m$ pixels are either black/white/strips/dots in every sequence.

As per claim 2, Rhoads and Cass teach all the subject matter as described above. In addition Rhoads teaches the method, further including the step of:

superimposing graphic material on the modules before printing (col. 4 lines 57-61, and col. 4 lines 20-21).

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoads (US Patent No.: 6,636,615) in view of Cass et al. (Cass, Patent Number: 5,946,414) and further in view of Leon (Pub. No.: US 2003/0028497 A1).

As per claim 3, Rhoads and Cass teach all the subject matter as described above. However Rhoads and Cass fail to explicitly teach the first image being postal indicia.

However Leon teaches the method, wherein the graphic material is a postal indicia (fig. 4 and par. 0089-0091).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Leon within the combination system of Rhoads and Cass because it would allow to discourage the counterfeiting of postage indicia (Leon par. 0019-0020).

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rhoads (US Patent No.: 6,636,615) in view of Bender et al. (Bender, Patent No.: US 6,201,879 B1).

As per claim 4, Rhoads teaches all the subject matter as described above. Rhoads fails to explicitly disclose the method, wherein the modules on the first lattice and the modules on the second lattice do not overlap.

However Bender teaches a high frequency nonoverlapping method of data embedding (Abstract and col. 1 lines 53-64).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to employ the teachings of Bender within the system of Rhoads because it would allow lattice/pixels to be spread out to each other and be put not close together.

8. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muratani (Patent No.: US 6,768,807 B1) in view of Roberts (Patent No.: US 6,882,442 B2) and Rhoads (Pub. No.: US 2004/0264735 A1).

As per claim 5, Muratani teaches a method for producing a composite image comprising the steps of:

producing a first image and a second image that embeds information in the first image (fig. 2 element f);

representing information contained in the second image by a two-dimensional bar code (col. 20 lines 36-39, col. 24 lines 8-10);

filtering the two-dimensional bar code with a spreading algorithm that scrambles the information represented by the two-dimensional bar code (col. 5 lines 28-47, and col. 20 lines 36-39);

expanding the first and second parts over the entire image that is going to be printed (col. 5 lines 28-47, col. 20 lines 36-39, and col. 20 lines 4-9); and

printing the first and second parts over the first image to produce an image containing hidden information (col. 4 lines 57-61).

Muratani does fail to explicitly teach splitting the filter bar code into an equal first part and an equal second part, wherein each first part and each second part will contain an upper portion and a lower portion such that the lower portion of the first part and the upper portion of the second part will be white or empty space;

However Roberts teach splitting the filtered bar code into an equal first part and an equal second part, wherein each first part and each second part will contain an upper portion and a lower portion such that the lower portion of the first part and the upper portion of the second part will be white or empty space (Fig. 11A, and col. 19 lines 6-30);

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to employ the teachings of Roberts within the system of Muratani because they are analogous in watermarking/barcode indicia. One in the art would have been motivated to incorporate the teachings of Roberts within the system of Muratani in order to prevent unauthorized user from photocopying/printing coupon/postal indicia and present it for redemption (col. 15 lines 39-53).

Muratani and Roberts fail to explicitly disclose applying a spreading algorithm to the first part and second part to scramble the information to further hide the information in the first and second parts in a manner that the spreading algorithm will move pixels in the first image and the second image so that the moved pixels will not be close together;

However Rhoads disclose applying a spreading algorithm to the first part and second part to scramble the information to further hide the information in the first and second parts in a manner that the spreading algorithm will move pixels in the first image and the second image so that the moved pixels will not be close together (Abstract, par. 0120-0125);

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to employ the teachings of Rhoads within the combination system of Muratani and Roberts because the digital watermark would be ciphered and pixels are scattered so pixels don't get close to each other during embedding (par. 0050, 0052, and page 9 section 3.2).

As per claim 8, Muratani, Roberts, and Rhoads teach all the subject matter as described above. In addition, Muratani teaches the method, wherein:

at each location in which information from the first parts is going to be printed, the printed information will be a printed pixel of a specified dimension (fig. 4A and col. 11 lines 40-47; pixel dimension is 2 by 2), and

at each location in which information from the plurality of second parts is going to be printed, the printed information will be a printed pixel of a specified dimension that differs from the pixels printed in the first parts (fig. 4B; pixel dimension is 4 by 4).

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muratani (Patent No.: US 6,768,807 B1), Roberts (Patent No.: US 6,882,442 B2), and Rhoads (Pub. No.: US 2004/0264735 A1), and further in view of Leon (Pub. No.: US 2003/0028497 A1).

As per claim 6, Muratani, Roberts, and Rhoads teach all the subjected method as described above. Muratani, Robert and Rhoads do not disclose the first image being postal indicia.

However Leon teaches the method, wherein the first image is a postal indicia (fig. 4 and par. 0089-0091).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Leon within the combination system of Muratani, Roberts, and Rhoads because it would allow to discourage the counterfeiting of postage indicia (Leon par. 0019-0020).

As per claim 7, Muratani, Roberts, Rhoads, and Leon teach all the subject matter as described above. In addition Rhoads teaches the method, wherein the first and second images are printed on a medium (page 6 par. 0099, page 10 par. 0157).

10. Claims 9-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muratani (Patent No.: US 6,768,807 B1), Roberts (Patent No.: US 6,882,442 B2), and Rhoads (Pub. No.: US 2004/0264735 A1), and further in view of Rhoads (US Patent No.: 6,636,615).

As per claim 9, Muratani, Roberts and Rhoads teach all the subjected matter as described.

Muratani, Roberts, and Rhoads do not explicitly teach the printed pixels of specified dimensions in the first and second parts will become larger when the first and second images are scanned.

However Rhoads (6,636,615) teaches the method, wherein when the first and second images are scanned and printed, the printed pixels of specified dimensions in the first and second parts will become larger (Abstract and fig. 5B).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the teachings of Rhoads (6,636,615) within the combination system of Muratani, Roberts and Rhoads because it would identify the original postal indicia.

As per claims 10 and 15, Muratani, Roberts, Rhoads and Rhoads (6,636,615) teach all the subject matter as described above. In addition Rhoads (6,636,615) teaches the method, wherein the change in size of the printed pixels of specified dimensions in the first and second parts is detectable by the unaided human eye (col. 3 lines 29-54, and fig. 5B). The rationale for combining are the same as claim 9 above.

As per claims 11 and 16, Muratani, Roberts, Rhoads and Rhoads (6,636,615) teach all the subject matter as described above. In addition Rhoads (6,636,615) teaches the method, wherein the change in size of the printed pixels of specified dimensions in the first and second parts is detectable by a scanner (col. 2 lines 55-67, and col. 6 lines 61-col. 7 lines 14). The

rational for combining are the same as claim 9 above.

As per claim 12, Muratani, Roberts, Rhoads and Rhoads (6,636,615) teach all the subject matter as described above. In addition Rhoads (6,636,615) teaches the method, further including the steps of: photocopying the first and second images; and noticing a change in appearance of the second image (col. 6 lines 61-col. 7 lines 14, and fig. 5B). The rational for combining are the same as claim 9 above.

As per claim 13, Muratani, Roberts, Rhoads and Rhoads (6,636,615) teach all the subject matter as described above. In addition Rhoads (6,636,615) teaches the method, further including the steps of: scanning the first and second images; and noticing a change in appearance of the second image (col. 6 lines 61-col. 7 lines 14, and fig. 5B). The rational for combining are the same as claim 9 above.

As per claim 14, Muratani, Roberts, Rhoads and Rhoads (6,636,615) teach all the subject matter as described above. In addition Rhoads (6,636,615) teaches the method, wherein when the first and second images are photocopied, the printed pixels of specified dimensions in the first and second parts will become larger (col. 2 lines 61-64, col. 6 lines 61-col. 7 lines 14, and fig. 5B). The rational for combining are the same as claim 9 above.

As per claim 17, Muratani, Roberts, Rhoads and Rhoads (6,636,615) teach all the subject matter as described above. In addition Rhoads (6,636,615) teaches the method, wherein the first image

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will not change in appearance when the first image is scanned or photocopied (fig. 5A, col. 2 lines 61-64, col. 6 lines 61-col. 7 lines 14, and fig. 5B). The rationale for combining are the same as claim 9 above.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eleni A. Shiferaw whose telephone number is 571-272-3867. The examiner can normally be reached on Mon-Fri 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eleni Shiferaw

October 31, 2005


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